Claims

[c1] 1.A method of measuring and reporting real-time SNR measurements during magnetic resonance imaging comprising:
receiving a real time image from a magnetic resonance imaging system;
calculating an acquired signal-to-noise ratio based upon said real time image;
calculating a relative SNR variant based upon said acquired signal-to-noise ratio; and
communicating said relative SNR variant through the use of a media device.

[c2] 2.A method as described in claim 1, further comprising:
calculating a noise region-of-interest and a signal region-of-interest, said acquired signal-to-noise ratio equal to said signal region-of-interest divided by said noise region-of-interest.

[c3] 3.A method as described in claim 1, wherein said noise region-of-interest and said signal region-of-interest are calculated using one of the group of magnitude images or complex image data.

[c4] 4.A method as described in claim 1, wherein said noise region-of-interest and said signal region-of-interest are calculated using k-space pixilization.

[c5] 5.A method as described in claim 1, further comprising:
calculating a reference SNR, said relative SNR variant based upon said acquired SNR divided by said reference SNR.

[c6] 6.A method as described in claim 5, wherein said reference SNR is based upon the average of a plurality of said acquired SNRs.

[c7] 7.A method as described in claim 5, wherein said reference SNR is recalculated when said relative SNR variant exceeds a preset threshold.

[c8] 8.A method as described in claim 5, wherein said reference SNR is reset to said acquired SNR when said relative SNR variant exceeds a preset threshold.

[c9] 9.A method as described in claim 1, wherein said media device comprises a visual display.

[c10] 10.A method as described in claim 1, wherein said media device comprises an audio feedback device.

[c11] 11.A method as described in claim 10, wherein said audio feedback device operates under an audio scheme based upon changes in said acquire signal-to-noise ratio.

[c12] 12.A method as described in claim 11, wherein said audio scheme varies a tone based upon the increase or decrease of said acquired signal-to-noise ratio.

[c13] 13.A method of measuring and reporting real-time SNR measurements during magnetic resonance imaging comprising:
receiving a plurality of real time images from a magnetic resonance imaging system;
calculating an acquired signal-to-noise ratio based upon each of said real time images;
calculating a reference SNR based upon a plurality of said acquired signal-to-noise ratios;
calculating a relative SNR variant based upon said acquired signal-to-noise ratio; and
communicating said relative SNR variant through the use of a audio feedback device.

[c14] 14.A method as described in claim 13, wherein said audio scheme indicates and increase or decrease in the acquired SNR.

[c15] 15.A method as described in claim 14, wherein said increase or said decrease is indicated by a change in tone.

[c16] 16.A method as described in claim 13, wherein said audio scheme indicate the magnitude of change of said acquired SNR through the use of multiple beeps.

[c17] 17.A method as described in claim 13, wherein said relative SNR variant is based upon said acquired signal-to-noise ratio divided by said reference signal-to-noise ratio.

[c18] 18. A method as described in claim 13, wherein said relative SNR variant is

based upon consecutive of said acquired signal-to-noise ratios.

[c19] 19.An apparatus for calculating the real-time SNR of a magnetic resonance imaging system comprising:
an image processing engine in communication with the magnetic resonance imaging system, said image processing engine calculating an acquired real-time signal-to-noise ration for each of a plurality of real-time images received from the magnetic resonance imaging system and comparing said acquired real-time signal-to-noise ratios with a reference signal-to-noise ratio to develop a relative signal-to-noise variance; and
an audio feedback device broadcasting an audio signal in response to said relative SNR variance.

[c20] 20.An apparatus as described in claim 19, further comprising:
a visual display in communication with said image processing engine, said visual display providing visual output in response to said relative SNR variance.